

Being an IA Professional

Introduction

There has been an increasing amount of discussion over the last couple of years of what it means to be an IA professional. This article sets out to explore the extent to which there are now many ‘flavours’ of IA professionals and how the role of people working in IA continues to change. To be successful individuals now have to ask themselves what kind of IA professional they want to be if they are to accurately assess what qualifications will help them progress in their careers. This article examines the issues and suggests some questions that may help you think about how you want to work within IA.

What do IA professionals do?

Anyone working in IA will have seen the role change extensively over the last decade both in terms of the skills and functions that an IA professional can be expected to fulfil. There is also a greater reliance on the IA professional to provide advice and guidance across the whole organisation. This is perhaps one of the reasons why it has been so difficult to describe what an IA professional does – the skill set required is dynamic and reflects the ever changing requirements of a wide variety of stakeholders.

Evidence of how the role has changed is apparent in the different job titles and department names that we’ve seen. Once the highest level an individual could reach in an organisation might have been the Network Security Manager or Head of IT Security (often reporting into the Head of IT – if he or she wasn’t already the Head of IT as well). Nowadays we have a small but select group of Chief Information Security Officers in the private sector (some reporting directly into the Board) and Senior Information Risk Owners across the public sector.

Whereas once the IA professional would have worked largely in a functional silo they now have to reach out and form links with a range of other departments (such as Human Resources for example). Just as they would previously have covered the full range of IA activities themselves they are now often part of a larger team that may include specialist expertise in security awareness, penetration testing or computer forensics, for example. Similarly they are no longer restricted to focusing solely on technology but now have to have the skills to appreciate technology as part of the business process and to address the often unpredictable behaviour of end users.

It is interesting to look at job adverts for roles in IA and explore how they reflect changing expectations. One advert from a few years ago requires:

‘a high degree of technical knowledge, UNIX, Linux, firewall management, encryption, transmission protocols, PKI, experience of penetration testing...’

So far all is well and good – the skill set required is essentially technical (we could almost say this was a traditional skill set for IA). The advert, however, then goes on to require:

‘ISO 27001 and governance processes, expert working knowledge of information security policies and standards, ability to analyse existing and planned processes, knowledge of all relevant laws (Data Protection, Computer Misuse, Copyrights and Patents) and the ability to undertake risk assessments’

I’ve termed this the ‘Jack of all Trades’ approach to IA. It is undoubtedly a complex and demanding skill set (presumably now we would also have to add in the ability to run security awareness programmes and create cultural change). It is a wish list for what the ideal IA professional would be able to achieve before we realised that there was scope for specialisation.

A more recent advert takes a measured approach, however, and requires a:

‘strong background as an Information Security Manager. Ability to define policy, strategy, procedure and manage a team of security consultants.’

While some technical ability is implied in the Information Security Manager title the emphasis is on management skills both for IA and in general organisational terms. The advert continues:

‘The role will include the development of security processes and procedures, ensuring compliance and protection of company data. Working closely with internal teams and outsourced third party providers, good understanding of risk analysis, ideally CISSP and degree level education. Good experience of change management, with good project management skills.’

There is a strong emphasis here on relationships both internal and external to the organisation. This is a good description of the ‘Hybrid Manager’, a role which has been defined as combining, ‘business understanding, technical competence, and organizational knowledge and skills’.¹

These two adverts, separated by a year or two, demonstrate how the role of the IA professional is becoming more specialised and increasingly requiring management skills. We have to ask – where is the profession going next? What other skill sets should the IA professional be thinking of building in order to stay ahead of the game?

What type of IA professional do you want to be?

The first question to ask then is – what type of IA professional do you want to be? I’ve been using the term as a catch-all title but as we can see there are a number of variations. To simplify matters a little we can perhaps borrow three labels that Des Lee from CIOConnect used to define roles in IT in general. He said that there were

¹ O’Conner, G & Smallman, C, ‘The Hybrid Manager: A Review’ in *Management Decision*, (1995) 33, 7, pp19-28

Plumbers, Architects and Change Warriors². This seems to me to be a useful way of looking at IA professionals.

We can see Plumbers as the out and out technologists – professionals undoubtedly but focused on the intricacies of protecting the IT. An example of this type of role might be penetration testers (the similarities seem obvious as we all know how difficult it is to get hold of a good plumber and how expensive they can be). The Architects are the people who, while they don't necessarily contribute to business planning, take the business plan and ensure that IA measures are in place to support it successfully. These IA professionals, for example, would do a sound job of implementing ISO 27001.

Finally we have the Change Warriors and these are the true hybrid managers who understand the organisation's business requirements as well as they understand IA. More importantly, if we are going to be forward looking, they understand how to make the best use of organisational politics and power and they have well-developed soft skills. There is a handful of this type of IA professional at the moment and, as Gerry O'Neill (CEO of the Institute for Information Security Professionals) has pointed out, we can't recycle them indefinitely - we need to develop more³.

How do you get to be an IA professional?

Ten years ago it was common for individuals to work in IA without having any specific training or educational qualifications in the area. The benefit of this was that you had a range of individuals with very different skill sets to help develop the IA role. As IA has become more specialised it is increasingly expected that anyone working in the area will have either specialist training qualifications and/or an MSc in a directly relevant subject.

From a training perspective probably the best known and most widely accepted qualification is CISSP. Many job advertisements ask for either a CISSP or an MSc and, let's be practical about this, it is easier to get a CISSP than to get an MSc (in terms of cost and time if nothing else). So the second question to ask is whether you want a training course or a programme of sustained educational development? It may be the case that you decide to do the CISSP in the short term to ensure you get a foot in the door and then an MSc longer term to give you the edge strategically and to give you a toolkit of different ways of thinking about the subject and your role. This is particularly likely to be the case if you are aiming for the Change Warrior role.

If you decide to study for an MSc then there are other questions to consider. Just as the role of the IA professional has become more specialised so have MSc degrees. You need to think about your own interests and aspirations and map this onto the MSc degrees you are considering. If you already have an undergraduate degree what subject did you study? You don't want to end up repeating material in an MSc that you studied as an undergraduate or that you've been doing as part of your job for a number of years.. The questions to ask here are – do you want to deepen your

² <http://www.computerweekly.com/Articles/2005/07/12/210818/cios-can-thrive-as-pace-of-change-quickens.htm> (accessed 16th March 2009)

³ http://www.infosecurityadviser.com/view_message?id=84 (accessed 16th March 2009)

knowledge of IA in a specific area or are you looking for a broad understanding of the subject coupled with a wider knowledge of business and organisational culture? You will also need to ask the practical questions such as – how are you going to pay for the course (it may be the case that your employer will help) and how much time will you have to commit? Make no mistake – studying for an MSc is hard work and if you are studying part-time or are distance-learning then, quite frankly, it can be hard going.

There are a number of Universities now offering MSc degrees in IA or associated subjects. Some questions that you should ask before deciding which MSc to take are:

- What is the ethos of the course? What does the course aim to do?
- What is the student demographic? Are students on the course straight from undergraduate degrees or do they have experience in the work place?
- What type of learning environment is offered? Is the course primarily delivered via lectures; is there a virtual learning environment to support students?
- Are the lecturers subject matter experts and do at least some have experience as practitioners?
- Does the course team have external links with the wider IA community?
- What is the delivery mode of the course? Is it full-time, part-time or distance learning?

The answers to questions such as these, coupled with your understanding of the type of IA professional you want to be, should help you to decide your next steps. That might be specific training courses or an MSc, or even both over time. If you choose to study for an MSc you should be able to identify which degree course will not only help you in your career but will also offer you sufficient intellectual challenges to keep you stimulated and motivated.

Conclusion

As we can see the role of the IA professional has changed significantly over time and is likely to change further. It has become more specialised and there are now niche opportunities in the profession for individuals from a wide range of backgrounds to make a contribution. Equally there are opportunities at a strategic level for ambitious IA professionals – particularly for those who have the skills of the hybrid manager and have the capacity to become Change Warriors. Formal qualifications in IA are likely to come from a combination of training and education and just as the profession as a whole is becoming specialised so are the training and education opportunities that support it. The IA professional needs to consider what role he or she wishes to play in the profession and choose training and education opportunities with care to maximise career opportunities.

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